

Agenda of August 28, 2002

Item No. _____

Contract No. M-343

Change Order No. 2

Price Increase: (NTE) \$9,200,000.00

Time Extension: 168 Days

TO: The Honorable Board of Water Commissioners
City of Detroit, Michigan

FROM: (b)(6), (b) (7)(C), Director
Water and Sewerage Department

DATE: August 28, 2002

RE: **Contract No. M-343**
“Electronic Security Systems at Various DWSD Facilities”
Detroit Contracting, Inc. (Contractor)
Black and Veatch Ltd. of Michigan (Designer)

I. Motion:

Upon the recommendation of Awni Qaqish, Assistant Director of Engineering Services, the Board of Water Commissioners authorizes the Director **to grant an increase, not to exceed \$9,200,000.00 in the Contract Price, with a time extension of 168 calendar days to the Substantial and Final Completion Dates, for DWSD Contract No. M-343, Change Order No. 2, “Electronic Security Systems at Various DWSD Facilities”, Detroit Contracting, Inc. (Contractor),** and also authorizes the Director to take such other action as maybe necessary to accomplish the intent of this vote.

II. Justification:

The Detroit Water and Sewerage Department (DWSD) Contract No. M-343 Electronic Security Systems for the Water Treatment Plants (WTP) and the Belle Isle Raw Water Intake was awarded to Detroit Contracting, Inc. (DCI). The Start Work Order was issued on September 7, 2001 and the Final Completion Date is currently scheduled on December 5, 2002. The Contract will provide electronic security systems at the five (5) existing WTP's and the Belle Isle Intake. The work includes providing a completely integrated access control, intrusion detection, and video surveillance at each site. Selected exterior doors will be replaced or modified to support the security systems.

The security systems, being installed under M-343, will control, detect, and video assess only at the main gate entrance to the WTP sites and the exterior doors of the facilities. The total cost of this Contract is \$5,525,000.00. The perimeter security system is not included in this Contract.

Since the September 11, 2001 terrorist attacks, security at water treatment plants throughout the country has become a top national priority. To safeguard our plant personnel and water supply, DWSD's Water Supply Operations has requested that the perimeter security system at the plants be provided as soon as possible.

It is recommended that the Change Order No. 2 project be issued as design/build. Under the traditional design/bid/build approach, it is estimated that it would take approximately two (2) years to complete the design, advertise, and award the contract, and build the perimeter security system. Under a design/build change order, the perimeter security system will take approximately seven (7) months for completion.

The scope of this proposal for Change Order No. 2 includes the implementation of a perimeter security system for all five (5) WTP's and intakes including microwave detection systems, and cameras consistent with the Security Section's requirements. This proposal will also provide cameras and intrusion detection devices for monitoring the water access points and several vulnerable areas located at the WTP's.

A microwave intrusion detection system in accordance with the Security Section's requirements will be used. Therefore, it is recommended that this change be incorporated into the M-343 Contract work. DWSD and its Consultant, Black and Veatch, Ltd. of Michigan (B&V) have reviewed the detailed cost breakdown for the proposed perimeter security system that was submitted by DCI and found it acceptable.

The Substantial Completion Date of the existing Contract M-343 is September 6, 2002. An additional 168 calendar days is requested by the Contractor to complete the perimeter security (Change Order No. 2) work. The revised Substantial Completion Date is February 21, 2003 and the revised Final Completion Date is May 22, 2003. The total cost of Change Order No. 2 is \$9,200,000.00.

III. Project Task/Costs:

A.	Original Contract Price:	\$ 5,525,000.00
	Change Order No. 1	\$ 397,300.00
	Proposed Change Order No. 2	<u>\$ 9,200,000.00</u>
	Total	\$15,122,300.00

B.	Time Extension	168 Calendar Days
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Board of Water Commissioners

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RE: Contract No. M-343

"Electronic Security Systems at Various DWSD Facilities"

IV. Management Status:

A.	Start Work Date:	September 7, 2001
B.	Original Substantial Completion Date:	September 6, 2002
	Original Final Completion Date:	December 5, 2002
C.	Revised Substantial Completion Date:	February 21, 2003
	Revised Final Completion Date:	May 22, 2003
D.	Original Contract Amount:	\$5,525,000.00
E.	Change Order No. 1:	\$ 397,300.00
F.	Proposed Change Order No. 2:	\$9,200,000.00
G.	Revised Contract Amount:	\$15,122,300.00

This recommendation was considered by the Board of Water Commissioners and action taken as noted below:

BOARD OF WATER COMMISSIONERS:

ACTION: _____

DATE: _____

BY: _____
(b)(6), (b) (7)(C), Director

(b)(6), (b) (7)
(C)

bcc:

(b)(6), (b)
(7)(C)

(b)(6), (b)
(7)(C)

Suspense File

BACKGROUND

Original Scope Of Contract No. M-343

The electronic security systems installed under this Contract at the five (5) Water Treatment Plants (WTP) and the Belle Isle Intake will provide a card access control and security systems. Intrusion detection will be provided at the plant buildings by door contacts, motion detectors, and glass break sensors. Cameras are specified to view the plant entrance and selected areas adjacent to the buildings. The cameras will have digital recordings for 30 days.

Alarms will be received at each plant and at the Security Room of the Main Office Building located Downtown Detroit. Each plant and the Main Office can view and control cameras and playback video recordings.

Under the Original Contract, selected doors will be modified or replaced to support the security system.

In general, the Original Contract covers intrusion detection only at the buildings. The plant perimeter fence lines do not have an intrusion detection system.

Security Requirements Since September 11, 2001

During the original study and conceptual design phase of Contract M-343, the Security Section requested that perimeter security be included as part of the security systems to these facilities. However, due to the estimated high cost, this portion of the work was eliminated with the intention of commissioning a separate contract for this work at a later date. As a result of the incidents in New York City and Washington, D.C. on September 11, 2001 and the imminent threat to our nation's security, the Detroit Water and Sewerage Department (DWSD) must undertake immediate steps to protect its critical water treatment facilities. Due to this reason, Water Supply Operations officially requested the addition of a perimeter detection security system at the water treatment plants and water intakes as soon as possible.

Benefits Of A Perimeter Detection System

Each of our WTP's covers several acres with several thousand feet of perimeter fence lines. Intruders need to be detected as soon as they enter our plants so security personnel can take appropriate action to protect our plant personnel and safeguard our water supply. An intrusion detection system at our fence lines will provide early detection. To further safeguard our water supply, this project will also include cameras and intrusion detection devices to alarm and monitor the water intake access points and selected vulnerable areas located through out the

WTP's. The perimeter detection system will supplement the intrusion detection system at our buildings provided under the Original Contract.

Description And Scope Of A Perimeter Detection System

The perimeter intrusion system consists of microwave sensors located inside the entire fence line of each water treatment plant and at the water intakes. When an intruder climbs the fence into the plant, microwave sensors will detect the intruder and an alarm will be sent to the guardhouse at the plant. The alarm will also be sent to the Security Room at the Main Office Building located downtown. Cameras will be positioned at the perimeter of the plant buildings to view the intruders that triggered the microwave sensors.

This project will also include cameras and intrusion detection devices to alarm and monitor the water intake access points and selected vulnerable areas located through out the WTP's. All the vents and hatch covers for the sedimentation tanks and the reservoirs will be covered with cameras and motion detectors. At the Lake Huron Water Treatment Plant, 2 or 3 cameras will be provided to view the remote incoming electrical substation and nearby emergency generators. At the Northeast Water Treatment Plant, a camera will be added east of the sedimentation tanks to view that section of the plant perimeter.

Change Order Process

Since time is of the essence, a Design/Build proposal was requested from the M-343 Contractor (DCI) to provide the perimeter detection system. If the project is designed and routinely advertised, it is estimated that the perimeter security system would be installed in two (2) years. If incorporated as a change order to the M-343 Contract, it is estimated that the perimeter security system would be installed by February 2003.

There are several cost savings to having DCI perform the work under a change order. By installing the perimeter detection system with the security systems provided by M-343, the two systems can be integrated, with cost savings associated with software, hardware, and coordination. In addition, there are significant cost savings since DCI is mobilized on all the sites.

The proposal was reviewed by DWSD and Black & Veatch from a technical viewpoint and cost basis and was found to be acceptable. DCI and its proposed subcontractors have the proven experience, ability, and resources, to complete the perimeter detection system installation at all the five (5) WTP's, the Belle Isle Intake and the Intake for the Southwest Water Treatment Plant.

The cost breakdown for the change order is provided in the attached Quotation by DCI.

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<u>Item</u>	<u>Cost</u>
Design Services	\$256,670.00
Management & Ancillary Services	275,032.00
Security Programming & Integration	295,379.00
 <u>Lake Huron Plant</u>	
Provide and Install a Chain Link Fence	66,725.00
Microwave Intrusion Detection Links	89,835.00
Electrical & Civil Work	726,451.00
Subtotal	883,011.00
 <u>Northeast Plant</u>	
Microwave Intrusion Detection Links	101,494.00
Electrical & Civil Work	914,070.00
Subtotal	1,015,564.00
 <u>Water Works Park</u>	
Microwave Intrusion Detection Links	124,811.00
Electrical & Civil Work	790,329.00
Subtotal	915,140.00
 <u>Southwest Plant</u>	
Microwave Intrusion Detection Links	105,381.00
Electrical & Civil Work	716,891.00
Subtotal	822,272.00
 <u>Springwells Plant</u>	
Microwave Intrusion Detection Links	109,267.00
Electrical & Civil Work	727,403.00
Subtotal	836,670.00
Spare parts -----	35,000.00
Warranties, taxes, freight & handling -----	29,900.00
O&M manuals, training, and as-built drawings -----	64,368.00
Additional perimeter cameras including Lake Huron (emerg. gen. & sub) and Northeast Water Treatment Plant (east of sed. basins) -----	248,673.00
Total	\$5,677,679.00
 Contractor's fee @ 5 % -----	283,884.00
Perimeter security at Belle Isle Intake -----	98,437.00
Perimeter security at Southwest Intake -----	40,000.00
Cash Allowance for video assessment cameras -----	1,000,000.00
Cash Allowance for cameras & intrusion detectors to monitor water access points -----	1,500,000.00
Provisional Allowance -----	600,000.00
TOTAL	\$9,200,000.00